

TE131178

0

4173408723 : MAJOR PETROCHEMISITRY AND POLYMER SCIENCE

KEY WORD : OXIDATION / SODIUM HYPOCHLORITE / MERCAPTANS

TOSAK KUWMOOL : OXIDATION OF MERCAPTANS WITH
SODIUM HYPOCHLORITE. THESIS ADVISOR : ASSOC. PROF.
AMORN PETSOM, Ph.D. 109 pp. ISBN 974-17-0381-3

The oxidation of mercaptan compounds in residue oil, sour gas oil, pyrolysis gas oil, kerosene and vacuum fuel oil were carried out using sodium hypochlorite as oxidizing agent. Some mercaptan compounds in the oils were found to be converted to disulfide, sulfoxide and sulfone compounds, as shown by Fourier Transform Infrared Spectrometric and Raman Spectrometric analyses. Some residue oil was separated as the emulsion, and the quantity of sulfur compounds in residue oil was decreased.

When sodium hypochlorite was used in combination with nonyl phenoxy poly (oxy-ethylene) ethanol, a nonionic surfactant, an increase in oxidation of mercaptan compounds was found. Residue oil, which converted into the emulsion, appeared more distinctive, and the sulfur content in residue oil was decreased even more.